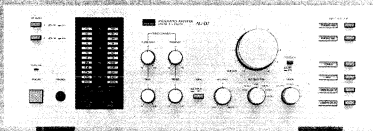


# SERVICE MANUAL

INTEGRATED STEREO AMPLIFIER  
LINEAR & DD/DC

## SANSUI AU-D7/D5



### • SPECIFICATIONS

#### CAU-D7

##### Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion  
80 watts per channel into 8 ohms

##### Load impedance

8 ohms  
less than 0.02 % at or below rated min. RMS power output

##### Total harmonic distortion

7 kHz  $\pm$  41 SMPTE method  
less than 0.02 % at rated

##### Frequency response (at 1 watt)

Overall (from AUX) DC to 300,000 Hz,  $\pm$  0.5 dB

RIAA curve deviation (PHONO MM, 20 Hz to 20 kHz)

$\pm$  0.5 dB,  $\pm$  0.5 dB (RLC circuit)

##### Rise time

0.5  $\mu$ s

##### Slaw rate

$\geq$  120 V/ $\mu$ s

##### Damping factor

(1 kHz, both channels driven)  
200 into 8 ohms

##### Input sensitivity and impedance (at 1 kHz)

PHONO MM 250  $\mu$ V/100 ohms

(Max. input capability, 15 mV at 1 kHz, less than 0.1 % total harmonic distortion)

PHONO MM 2.5 mV/47 kilohms

(Max. input capability, 200 mV at 1 kHz, less than 0.1 % total harmonic distortion)

AUX, TUNER, TAPE PLAY 1-2 200 mV/47 kilohms

Output level and impedance (1,000 Hz)

TAPE REC 1-2 200 mV into 47 kilohms

600 ohms

Channel separation (1 kHz, at rated power output)

PHONO MM 95 dB

AUX, TUNER, TAPE PLAY 1-2 80 dB

Signal to noise ratio (short circuit, A network)

PHONO MM 67 dB

PHONO MM 85 dB

AUX, TUNER, TAPE PLAY 1-2 110 dB

Controls (VOLUME -30 dB position)

SUPER BASS  $\pm$  6 dB at 10 Hz

BASS  $\pm$  6 dB at 100 Hz

PRESENCE  $\pm$  6 dB at 1.2 kHz

TREBLE  $\pm$  6 dB at 15 kHz

LOUDNESS  $\pm$  6 dB at 10 kHz

Power requirements

Power voltage 120, 220, 240 V (50/60 Hz)

For U.S.A. & Canada 120 V (60 Hz)

Power consumption

Rated consumption 270 watts 340 VA

Maximum consumption 380 watts

Dimensions

430 mm (16 1/8") H

148 mm (5 7/8") W

328 mm (12 1/8") D

Using rack mounting adaptors

480 mm (18 1/2") H

148 mm (5 7/8") W

330 mm (13 3/8") D

Weight

11.2 kg (24.9 lb) net

12.6 kg (27.8 lb) full packed

13.1 kg (28.9 lb) full packed

12.8 kg (28.2 lb) full packed

CAU-D5

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion

15 watts per channel into 8 ohms

Load impedance

8 ohms

Total harmonic distortion

7 kHz  $\pm$  41 SMPTE method

less than 0.02 % at rated

Frequency response (at 1 watt)

Overall (from AUX) DC to 300,000 Hz,  $\pm$  0.5 dB

RIAA curve deviation (PHONO MM, 20 Hz to 20 kHz)

$\pm$  0.5 dB,  $\pm$  0.5 dB

Rise time

0.5  $\mu$ s

Slaw rate

$\geq$  120 V/ $\mu$ s

Damping factor (1 kHz, both channels driven)

200 into 8 ohms

Input sensitivity and impedance (at 1 kHz)

PHONO MM 250  $\mu$ V/100 ohms

(Max. input capability, 15 mV at 1 kHz, less than 0.1 % total harmonic distortion)

PHONO MM 2.5 mV/47 kilohms

(Max. input capability, 200 mV at 1 kHz, less than 0.1 % total harmonic distortion)

AUX, TUNER, TAPE PLAY 1-2 200 mV/47 kilohms

Output level and impedance (1,000 Hz)

TAPE REC 1-2 200 mV into 47 kilohms

900 ohms

Channel separation (1 kHz, at rated power output)

PHONO MM 95 dB

AUX, TUNER, TAPE PLAY 1-2 80 dB

Signal to noise ratio (short circuit, A network)

PHONO MM 67 dB

PHONO MM 85 dB

AUX, TUNER, TAPE PLAY 1-2 110 dB

Controls (VOLUME -30 dB position)

SUPER BASS  $\pm$  6 dB at 10 Hz

BASS  $\pm$  6 dB at 100 Hz

PRESENCE  $\pm$  6 dB at 1.2 kHz

TREBLE  $\pm$  6 dB at 15 kHz

LOUDNESS  $\pm$  6 dB at 10 kHz

Power requirements

Power voltage 100, 120, 220, 240 V (50/60 Hz)

For U.S.A. & Canada 120 V (60 Hz)

Power consumption

Rated consumption 250 watts 300 VA

Maximum consumption 350 watts

Dimensions

430 mm (16 1/8") H

148 mm (5 7/8") W

328 mm (12 1/8") D

480 mm (18 1/2") H

148 mm (5 7/8") W

330 mm (13 3/8") D

Weight

9.6 kg (21.2 lb) net

10.9 kg (24.0 lb) full packed

9.6 kg (21.2 lb) full packed

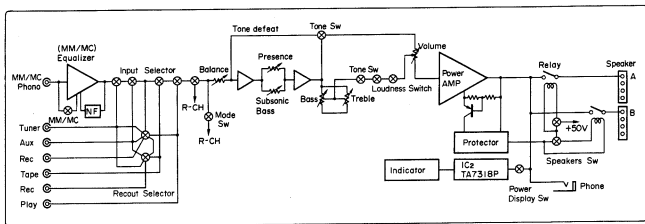
11.1 kg (24.5 lb) full packed

\* Design and specifications subject to change without notice for improvements.

**Sansui**

SANSUI ELECTRIC CO., LTD.

# 1. BLOCK DIAGRAM



## 2. OPERATIONS

### 2-1. Occurrence of switching distortion in a B-class amplifier and its prevention circuit (Operation of super linear A-class circuit)

In general, when bi-polar transistors are operated in a B-class amplifier, the switching distortion is inevitably produced. There exist a few circuits which can eliminate this switching distortion; however, a remarkable effect has been achieved on reducing the switching distortion by using two-transistor circuit designed by SANSUI.

#### A. Occurrence of switching distortion in a B-class amplifier

##### 1) Bias voltage when no signal is applied

In order to operate a B-class amplifier, it is necessary to keep a small current flowing through the power transistors. Therefore, a bias voltage should be applied to the transistors.

Fig. 1 shows how the bias voltage is developed when no signal is applied.

- First, the bias voltage between points (A) and (B) at the power stage is a constant voltage of 2.4V.
- Next, looking through the bias voltage distribution over the power stage, since a very small current is flowing when no signal is applied, the voltage drop across the emitter resistor  $R_E$  is as small as can be considered to be negligible. Accordingly, each voltage between points (A) and (C) or between points (B) and (C) is equal to the sum total 1.2V of two base-emitter voltages  $V_{BE}$  of TR1 and TR3 or TR2 and TR4, respectively. In addition, the voltage between the middle point (C) and the ground is zero.

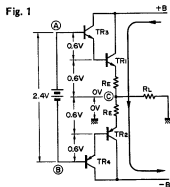


Fig. 1

##### 2) Bias voltage in operation and occurrence of switching distortion (See Fig. 2)

Now, when a signal current is passed through the NPN type power transistor TR1, the base-emitter voltages  $V_{BE}$  of TR1 and TR3 and the voltage across the emitter resistor  $R_E$  also increase. Accordingly, the voltage between points (A) and (C) changes to 1.9V. On the other hand, since the voltage between points (A) and (B) is maintained at 2.4V, only a voltage of 0.5V is applied to between two points (B) and (C) as the bias voltage of the PNP type power transistors TR2 and TR4. Therefore, the transistors TR2 and TR4 are kept in a cut-off state or a reverse bias state. Fig. 3 shows this condition, indicating that the switching of push-pull operation is in a critical state.

Fig. 2

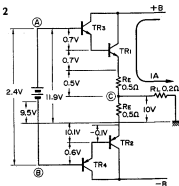
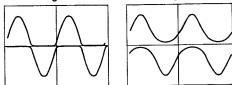


Fig. 3

Fig. 4



### 3) Occurrence of switching distortion caused by power transistors themselves

In the case of a B-class amplifier, the transistors are repeatedly turned on or off while flowing a large current.

When the base carrier of a power transistor is charged or discharged under application of a high voltage, the base storage effect keeps a forward current flowing therethrough for a while even after the forward voltage has been cut off, or causes a backward current to flow therethrough when the reverse voltage is applied thereto, as shown in Fig. 5. This is the cause of occurrence of switching distortion, and the higher the frequency, the bigger the switching distortion.

### B. Switching distortion prevention circuit

To eliminate the switching distortion, it is possible to consider some countermeasures, for instance, such as improvement of the bias circuit or adoption of high speed switching power transistors <transistors with high cut-off frequency fr: LAPT (Linear amplifier power transistor) developed by SANSUI.>

#### 1) Bias circuit to eliminate switching distortion

There are two methods or two bias circuits to eliminate the distortion as follows:

- a) A method is to detect an increment in the sum total of the base-emitter voltage  $V_{BE}$  of the power transistor on the operation side and the voltage developed across the emitter resistor  $R_E$ , in order to increase the bias voltage, which is called Positive Feedback Operation. In this case, however, it should be avoidable that the feedback gain exceeds one (1) because this will cause the power transistors to break down.
- b) The other method is to detect a decrement in the sum total of the base-emitter voltage  $V_{BE}$  of the power transistor on the inoperation side and the voltage developed across the emitter resistor, in order to increase the bias voltage, which is called Negative Feedback Operation.

Although this operation is very stable, the circuit operates only during a half cycle while the power transistors are not in operation.

Sansui has developed very stable bias circuit, which can realize the above-mentioned two methods by using only two transistors.

#### 2) Positive Feedback Operation (See Fig. 6)

In this circuit, a voltage increment in the sum total of the base-emitter voltage  $V_{BE}$  of the power transistors on the operation side and the voltage across the emitter resistor appear almost directly between points (A) and (B).

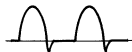
Therefore, even if the voltage between points (A) and (C) increases, since the voltage between points (A) and (B) increases by that increment, the power transistor on the inoperation side are not cut off.

To describe in more detail, when the power transistors operate and a current flows therethrough, the base-emitter voltages  $V_{BE}$  of transistors KQ11, 12, and 13 and a voltage across the resistor kR37 increase. In this case, since the voltage between points (C) and (D) equals to that between points (D) and (H), the voltage increment across the resistor kR37 equals to the voltage between points (F) and (D). In addition, each base-emitter voltage  $V_{BE}$  of the transistors KQ12 and 13 almost equal to the voltage across the diodes kD3 and 4. As a result, the voltage between points (A) and (F) increases by a voltage corresponding to that between points (F) and (D). Further, since the transistor kQ8 acts approximately as a constant current circuit, a voltage increment between points (F) and (D) is added to that between points (A) and (B), thereby keeping the constant bias current of the PNP type transistors flowing therethrough and preventing the transistors from being cut off. Further, since the transistor kQ8 operates as an emitter follower in this bias circuit, it is impossible for the operation gain to exceed one (1).

### 3) Negative Feedback Operation (See Fig. 6)

A negative feedback circuit is formed when each divided voltages between points (F) and (D), and between points (F) and (H) are applied to the base of the transistor kQ8 during a half-cycle on the operating side.

Fig. 5



When the power transistors are in operation, however, since the voltage between points (C) and (D) is high and the internal resistance of the diodes kD3 and 4 is small, the current flowing through between points (F) and (H) increases, therefore, the negative feedback circuit does not almost function.

Next during a half-cycle on the inoperating side, since the voltage between points (C) and (E) is low and the internal resistance of the diodes kD5 and 6 is large, a sufficient negative feedback operation is performed.

To describe this operation in more detail, the PNP type power transistor becomes inoperative and the voltage between points (C) and (E) decreases. As a result, the current flowing through points (C) and (E) decreases and the voltage between points (H) and (G) also decreases.

On the other hand, since an almost constant current is flowing through the transistors kQ8 and 10, voltage between emitters of kQ8 and 10 is kept constant. As a result, the transistors kQ8 and 10 are cut off and therefore the voltage between points (A) and (B) increases. Therefore, since the current flowing through the power transistors on the inoperative side increases, thus preventing the power transistor from being cut off and the switching distortion from being produced (See Fig. 4).

Figs. 7 and 8 show the waveforms of the base-emitter voltage  $V_{BE}$  in comparison between the two bias circuits before and after improvement.

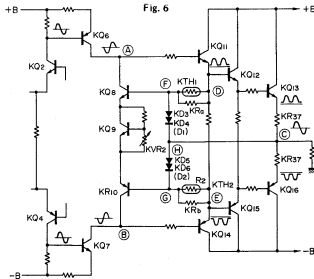


Fig. 6

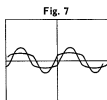


Fig. 7

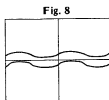


Fig. 8

## 2-2. Tone control operation

Care must be exercised when handling this tone control circuit, because this differs from the conventional one.

The tone and loudness control circuits are provided with this circuit configuration, as shown in Fig. 9.

The operation is as follows:

- 1) When the tone switch is turned OFF, the tone control circuit is disconnected, but only the loudness circuit operates in ON and OFF function.
- 2) When the tone switch and loudness switches are both turned ON, the loudness circuit operates but the tone control circuit does not operate.
- 3) When the tone switch is turned ON and loudness switch is turned OFF, the tone control circuit operates. In this case, however, the output of the tone control circuit is connected to the middle position of the main volume control, the same frequency characteristics as in loudness control can be obtained. Therefore, when rotating the main volume control clockwise from the middle position, the rate of change in tone enhancement decreases toward and does not vary near the maximum. On the other hand, when rotating the main volume control counterclockwise, the rate of change in tone increases varies as shown in Fig. 10.

Fig. 9

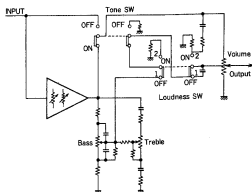
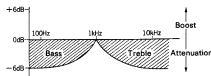


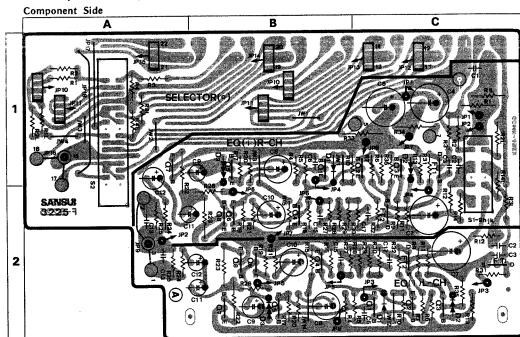
Fig. 10



- Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

## 3. PARTS LOCATION & PARTS LIST

### 3-1. F-3225 Equalizer Amp. Circuit Board (Stock No. 00628601 = AU-D7/07078501 = AU-D5)



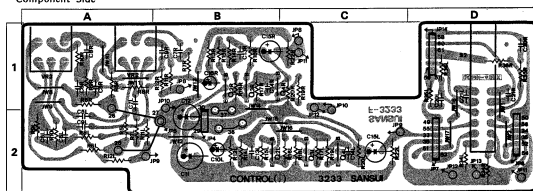
Parts List

| Parts No.   | Stock No.   | Description           |
|-------------|-------------|-----------------------|
| ●Transistor |             |                       |
| IQ1         | 03067400, 1 | 2SC1845 F, E          |
| IQ2         | 03067400, 1 | 2SC1845 F, E          |
| IQ3         | 03067400, 1 | 2SC1845 F, E          |
| IQ4         | 03010900, 1 | 2SA992 F, E           |
| IQ5         | 03010900, 1 | 2SA992 F, E           |
| IQ6         | 03067400, 1 | 2SC1845 F, E          |
| IQ7         | 03085201, 2 | 2SD438 E, F           |
| IQ8         | 03033601, 2 | 2SB560MP E, F         |
| ●FET        |             |                       |
| IFT1, 2     | 03703402~5  | 2SK163 L1, L2, M1, M2 |

| Parts No. | Stock No. | Description                    |
|-----------|-----------|--------------------------------|
| ●Diode    |           |                                |
| ID1       | 03111600  | 1S2473D                        |
| ●Varistor |           |                                |
| ID2       | 03401500  | MV-12                          |
| ID3       | 03401700  | MV-103                         |
| IR22, 23  | 00183100  | 47Ω 1W N.I.R.                  |
| IR33, 34  | 00181100  | 22Ω 1W N.I.R.                  |
| OS1       | 07200500  | Slide Switch, selector         |
| OS2       | 07200200  | Slide Switch, rec out selector |

## 3-2. F-3233 Control Circuit Board (Stock No. 00629501=AU-D7/07079301=AU-D5)

Component Side



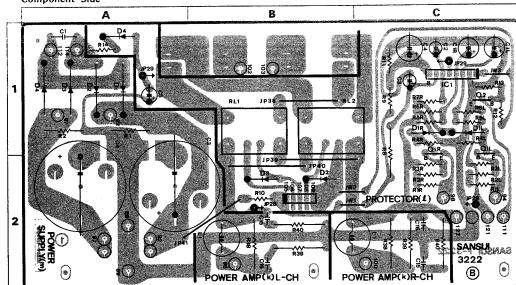
## Parts List

| Parts No.   | Stock No.   | Description                                      |
|-------------|-------------|--|
| •Transistor |             |  |
| jQ2         | 03067400, 1 | 2SC1845 F, E                                     |
| jQ3         | 03067400, 1 | 2SC1845 F, E                                     |
| jQ4         | 03010900, 1 | 2SA992 F, E                                      |
| jVR2        | 07199800, 1 | Variable Resistor 50k $\Omega$ (B) x 2, presence |

| Parts No. | Stock No.   | Description   |
|-----------|-------------|---|
| jVR3      | 07199800, 1 | Variable Resistor 50k $\Omega$ (B) x 2, subsonic bass |
| J52       | 07199100    | Push Switch, loudness                                 |

## 3-3. F-3222 Protector Circuit Board (Stock No. 00628301=AU-D7/07078201=AU-D5)

Component Side



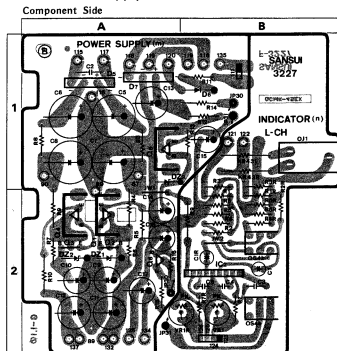
## Parts List

| Parts No.   | Stock No.   | Description            |
|-------------|-------------|------------------------|
| kR38        | 00190600    | 4.7 $\Omega$ 2W N.I.R. |
| kR39        | 00185500    | 10 $\Omega$ 2W N.I.R.  |
| kR40        | 00185500    | 10 $\Omega$ 2W N.I.R.  |
| kL1         | 42903700    | Peaking Coil 1 $\mu$ H |
| •Transistor |             |                        |
| IQ1         | 03010900, 1 | 2SA992 F, E            |
| IQ2         | 03067400, 1 | 2SC1845 F, E           |
| •IC         |             |                        |
| IIC1        | 03609000    | HA12002                |
| •Diode      |             |                        |
| ID1 ~ 4     | 03117700    | 10E-2                  |

| Parts No. | Stock No. | Description                    |
|-----------|-----------|--------------------------------|
| IR8       | 00187900  | 2.2k $\Omega$ 2W N.I.R.        |
| IRL1, 2   | 07198400  | Relay                          |
| mR1, 2    | 00179300  | 10k $\Omega$ 1W N.I.R.         |
| •Diode    |           |                                |
| mD1 ~ 4   | 03115700  | ERD03-02 (AU-D5)               |
| mC1       | 00380500  | 10000pF 500V C.C.              |
| mC3, 4    | 04605270  | 15000 $\mu$ F 63V E.C. (AU-D7) |
|           | 07253700  | 9000 $\mu$ F 63V E.C. (AU-D5)  |



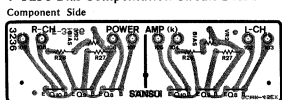
## 3-5. F-3227 Power Supply Circuit Board (Stock No. 00628801=AU-D7/07078701=AU-D5)



## Parts List

| Parts No.   | Stock No.  | Description    |
|-------------|------------|----------------|
| kR43L       | 00187800   | 220Ω 2W N.I.R. |
| kR43R       | 00187800   | 220Ω 2W N.I.R. |
| •Transistor |            |                |
| mQ1         | 03084801,2 | 2SD358 D,E     |
| mQ2         | 03086101,2 | 2SD357 D,E     |
| mQ2         | 03067400,1 | 2SC1845 F,E    |

## 3-8. F-3236 Bias Compensation Circuit Board

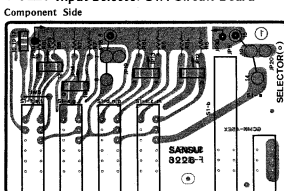


## Parts List

| Parts No.   | Stock No.  | Description                          |
|-------------|------------|--------------------------------------|
| •Transistor |            |                                      |
| kQ8         | 03067400,1 | 2SC1845 F,E                          |
| kQ9         | 03067400,1 | 2SC1845 F,E                          |
| kQ10        | 03010900,1 | 2SA992 F,E                           |
| kVR2        | 10353100   | Semi Variable Resistor 1kΩ (B), bias |

| Parts No.    | Stock No.  | Description                       |
|--------------|------------|-----------------------------------|
| mQ3          | 03010900,1 | 2SA992 F,E                        |
| mQ4          | 03033101,2 | 2SB528 D,E                        |
| mQ5          | 03034401,2 | 2SB527 D,E                        |
| mQ6          | 03084801,2 | 2SD358 D,E                        |
| mQ6          | 03086101,2 | 2SD357 D,E                        |
| mQ6          | 03062801,2 | 2SC1735 D,E                       |
| •Diode       |            |                                   |
| mD5          | 03117000   | RB-152                            |
| mD6          | 03117000   | 10E-2                             |
| mD7          | 07117000   | RB-152                            |
| •Zener Diode |            |                                   |
| mDZ1,2       | 03172300   | RD33F-8                           |
| mDZ3         | 03163100   | RD13E-8                           |
| mR4          | 00180200   | 150Ω 1W N.I.R. (AU-D7)            |
| mR7          | 00179700   | 120Ω 1W N.I.R. (AU-D5)            |
| mR9          | 00180200   | 150Ω 1W N.I.R. (AU-D7)            |
| mR14         | 00179700   | 120Ω 1W N.I.R. (AU-D5)            |
| mR14         | 00179100   | 100Ω 1W N.I.R.                    |
| mC2          | 00380500   | 10000pF 500V C.C.                 |
| •IC          |            |                                   |
| nIC2         | 03610000   | TA7318P                           |
| nR9          | 00181300   | 2.2kΩ 1W N.I.R.                   |
| nC1          | 00306800   | 1μF 50V E.B.                      |
| nVR1         | 10351000   | Semi Variable Resistor 3.3kΩ (B)  |
| oC4          | 07193900   | Push Switch, output power display |
| oJ1          | 24306000   | Head Phone Jack                   |

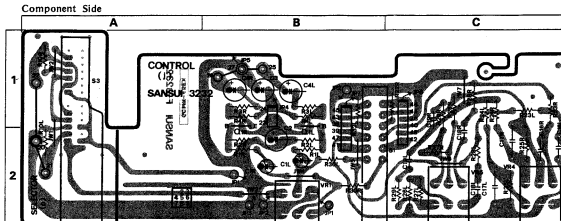
## 3-9. F-3226 Input Selector SW. Circuit Board



## Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
| oS1       | 07200100  | Push Switch |

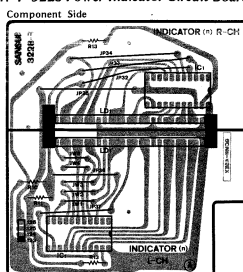
## 3-10. F-3232 Tone Control Circuit Board



## Parts List

| Parts No.   | Stock No.  | Description                           | Parts No. | Stock No. | Description                       |
|-------------|------------|---------------------------------------|-----------|-----------|-----------------------------------|
| •Transistor |            |                                       | JVR4      | 07199900  | Variable Resistor 5kΩ x 2, bass   |
| JQ1         | 03067400,1 | 2SC1845 F,E                           | JVR5      | 07199900  | Variable Resistor 5kΩ x 2, treble |
| JVR1        | 07199700,1 | Variable Resistor 250kΩ (MN), balance | JS1       | 07199300  | Push Switch, tone                 |
|             |            |                                       | oS3       | 07199200  | Rotary Slide Switch, mode         |

## 3-11. F-3228 Power Indicator Circuit Board



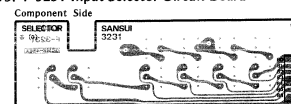
## Parts List

| Parts No. | Stock No. | Description                    |
|-----------|-----------|--------------------------------|
| •IC       |           |                                |
| nIC1      | 03613200  | IR2406                         |
| nLD1      | 07187500  | Light Emitting Diode GL-112R13 |
| nPL7      | 07201600  | Pilot Lamp 8V 150 mA           |
| nPL8      | 07201600  | Pilot Lamp 8V 150 mA           |

## 3-12. F-3237 Master Volume Circuit Board

| Parts No. | Stock No.  | Description                     |
|-----------|------------|---------------------------------|
| JVR6      | 07199900,1 | Variable Resistor 100kΩ (B) x 2 |

## 3-13. F-3231 Input Selector Circuit Board



## 3-14. F-3223 Power Fuse Circuit Board

| Parts No. | Stock No. | Description                  |
|-----------|-----------|------------------------------|
| •AU-D7    |           |                              |
| pF1       | 07188800  | Fuse 250V 3A (220V ~ 240V)   |
|           | 07189200  | Fuse 250V 6A (100V ~ 120V)   |
| •AU-D5    |           |                              |
| pF1       | 07188700  | Fuse 250V 2.5A (220V ~ 240V) |
|           | 07189100  | Fuse 250V 5A (100V ~ 120V)   |

## 3-15. F-3417 Rectifier Circuit Board (AU-D7 Only)

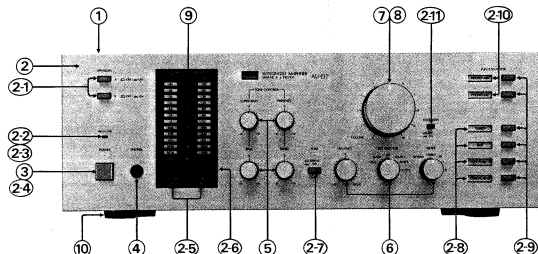
| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
| •Diode    |           |             |
| mD1       | 03112900  | SS-3        |
| mD2       | 03113000  | SS-3R       |

## • Abbreviations

|  |  |
|--|--|
| C.R. . . Carbon Resistor                             | E.L. . . Low Leak Electrolytic Capacitor           |
| S.R. . . Solid Resistor                              | E.B. . . Bipolar Electrolytic Capacitor            |
| C.R. . . Cement Resistor                             | E.B.L. . . Low Leak Bipolar Electrolytic Capacitor |
| M.R. . . Metal Film Resistor                         | T.A.C. . . Tantalum Capacitor                      |
| F.R. . . Fusing Resistor                             | F.C. . . Film Capacitor                            |
| N.I.R. . . Non-Inferior Resistor                     | M.P. . . Metallized Paper Capacitor                |
| G.C. . . Ceramic Capacitor                           | P.C. . . Polyester Capacitor                       |
| C.T. . . Ceramic Capacitor, Temperature Compensation | G.C. . . Ceramic Capacitor                         |
| E.C. . . Electrolytic Capacitor                      |  |

## 4. OTHER PARTS

### 4-1. Front View



#### Parts List <Front View>

| Parts No.      | Stock No. | Description                             |
|----------------|-----------|---|
| <Silver Model> |           |   |
| 1              | 07555500  | Bonnet                                  |
| 2              | 07556240  | Front Panel Assy (AU-D7)                |
| 2              | 07666900  | Front Panel Assy (AU-D5)                |
| 2-1            | 07553800  | Push Knob Assy, speaker                 |
| 2-2            | 07220700  | Light Emitting Diode (Red)              |
| 2-3            | 55072800  | Masking Sheet                           |
| 2-4            | 59560900  | Push Knob Guide                         |
| 2-5            | 71061500  | Push Knob Assy, range selector, display |
| 2-6            | 07541200  | Meter Window                            |
| 2-7            | 07553800  | Push Knob Assy, tone                    |
| 2-8            | 07540700  | Indicator Plate (B)                     |
| 2-9            | 07553900  | Push Knob Assy, input selector          |
| 2-10           | 07540600  | Indicator Plate (A)                     |
| 2-11           | 07522500  | Push Knob Assy, loudness                |
| 3              | 53195000  | Push Knob, power                        |
| 4              | 24306000  | Head Phone Jack                         |
| 5              | 53195600  | Knob, tone control                      |
| 6              | 07554200  | Knob, balance, rec selector, mode       |
| 7              | 53195500  | Knob, volume                            |
| 8              | 50485300  | Masking Sheet                           |

#### <Black Model>

|     |          |   |
|-----|----------|---|
| 1   | 07665700 | Bonnet                                  |
| 2   | 07723710 | Front Panel Assy (AU-D7)                |
| 2   | 07666000 | Front Panel Assy (AU-D5)                |
| 2-1 | 07554100 | Push Knob Assy, speaker                 |
| 2-2 | 07220700 | Light Emitting Diode (Red)              |
| 2-3 | 55072800 | Masking Sheet                           |
| 2-4 | 59560900 | Push Knob Guide                         |
| 2-5 | 71061500 | Push Knob Assy, range selector, display |
| 2-6 | 07541200 | Meter Window                            |
| 2-7 | 07554000 | Push Knob Assy, tone                    |
| 2-8 | 07540700 | Indicator Plate (B)                     |

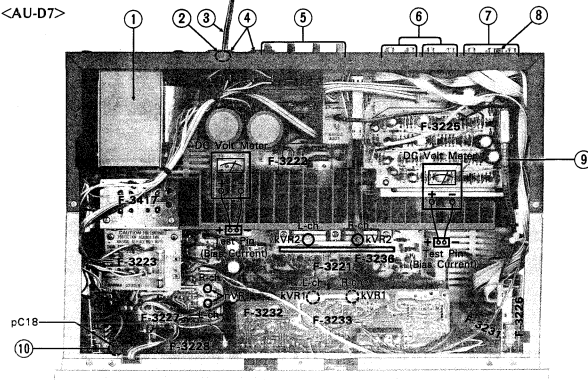
| Parts No. | Stock No. | Description                       |
|-----------|-----------|-----------------------------------|
| 2-9       | 07554100  | Push Knob Assy, input selector    |
| 2-10      | 07540600  | Indicator Plate (A)               |
| 2-11      | 071061500 | Push Knob Assy, loudness          |
| 3         | 53195600  | Push Knob, power                  |
| 4         | 24306000  | Head Phone Jack                   |
| 5         | 53196200  | Knob, tone control                |
| 6         | 07614400  | Knob, balance, rec selector, mode |
| 7         | 53196400  | Knob, volume                      |
| 8         | 50485300  | Masking Sheet                     |
| 9         | 07723600  | Indicator Plate Assy (AU-D7)      |
|           | 07556350  | Indicator Plate Assy (AU-D5)      |
| 10        | 55073500  | Lug                               |

#### Parts List <Top View>

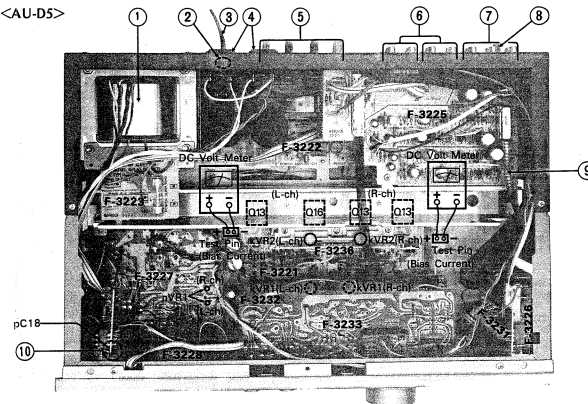
| Parts No. | Stock No. | Description                          |
|-----------|-----------|--------------------------------------|
| 1         | 15003201  | Power Transformer (AU-D7)            |
| 2         | 07201201  | Power Transformer (AU-D5)            |
| 3         | 39106000  | Strain Relief                        |
| 4         | 38004700  | Power Supply Cord                    |
| 4         | 07189600  | AC Outlet                            |
| 5         | 07183300  | 8P Output Terminal                   |
| 5         | 22007100  | 4P Input Terminal, tape 1, 2         |
| 7         | 22007200  | 8P Input Terminal, phono, tuner, aux |
| 8         | 22301500  | Ground Terminal                      |
| 9         | 07200600  | Wire                                 |
| 10        | 11318900  | Push Switch, power                   |
| pC18      | 00386000  | 10000pF 150V C.C.                    |

### 4-2. Top View

<AU-D7>

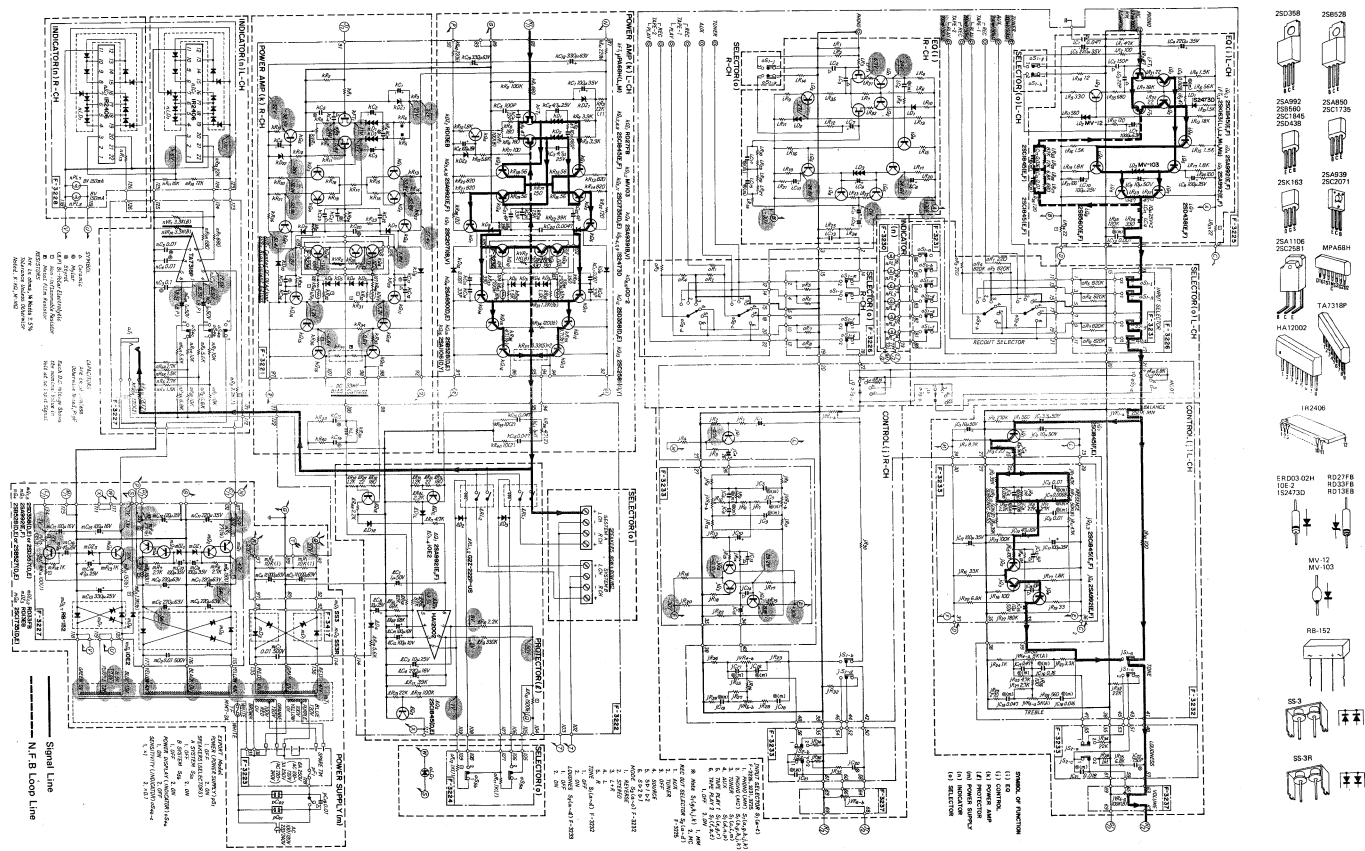


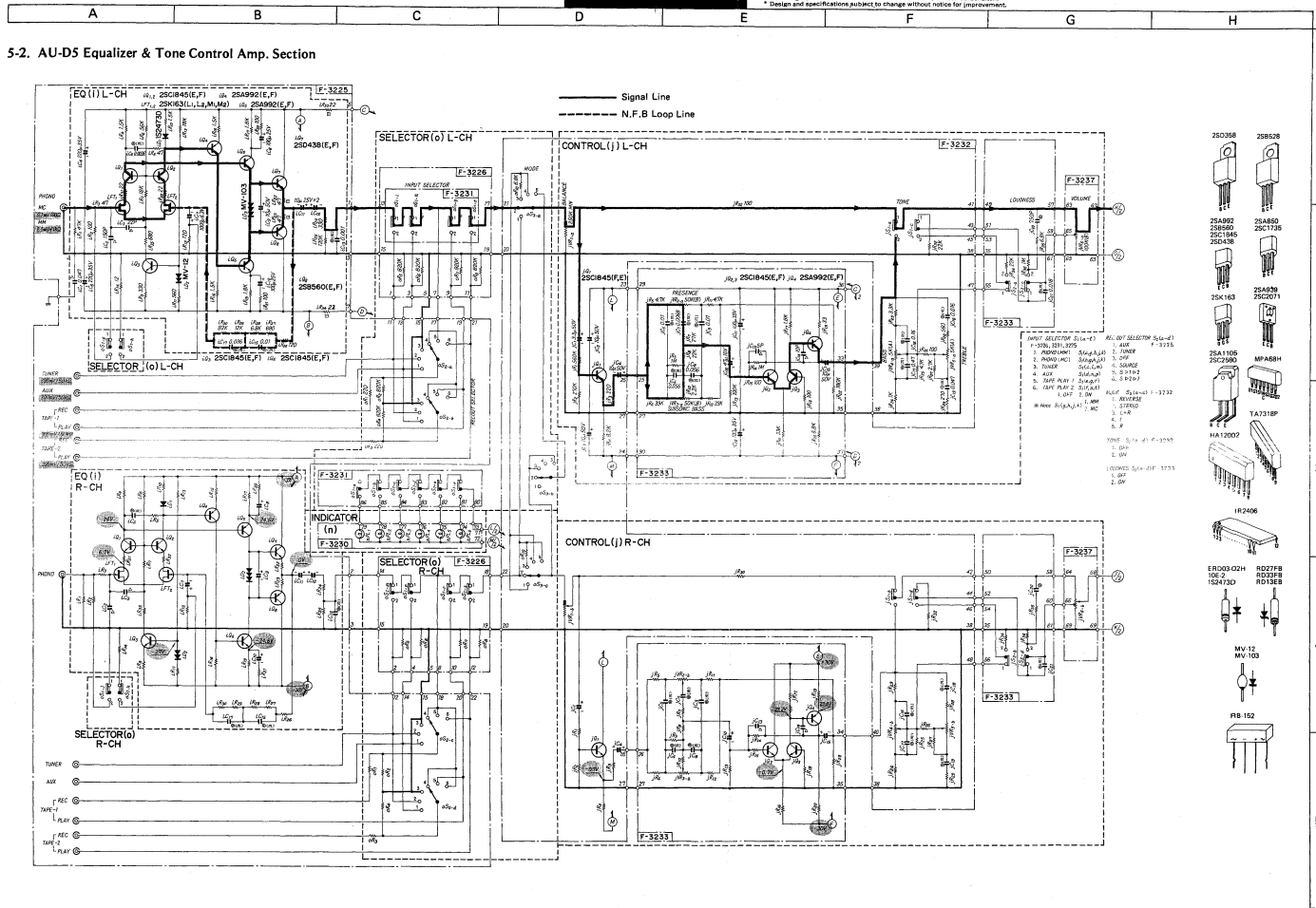
<AU-D5>

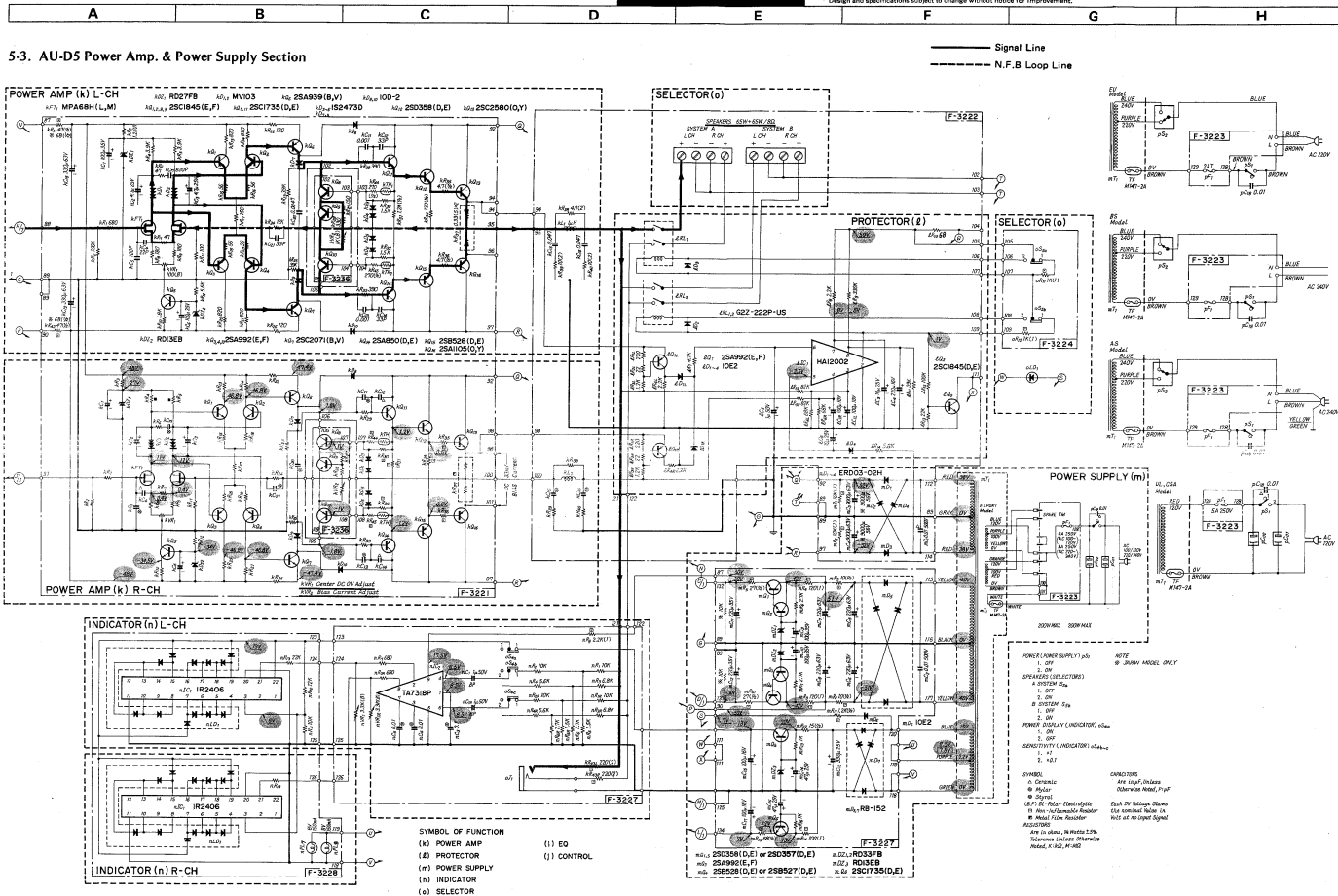




## 5. SCHEMATIC DIAGRAM 5-1. AU-D7







## 6. ADJUSTMENTS

### 6-1. Driver Circuit Adjustment

- Note: 1) Master Volume . . . . Minimum  
 2) Room Temperature . 18°C ~ 28°C (65°F ~ 83°F)  
 3) Before turning ON power switch, set kVR1 on F-3221 to center position.  
 4) Before turning ON power switch, set kVR2 on F-3236 fully counterclockwise.

| STEP | SUBJECT                | MEASURE OUTPUT                       | ADJUST  | ADJUST FOR       | REMARKS  |
|------|------------------------|--------------------------------------|---|------------------|--|
| 1.   | DC 0V Adj. L-CH        | Speaker Terminal (L-ch)              | kVR1, L-ch (F-3221)   | DC 0V $\pm 5$ mV |  |
| 2.   | DC 0V Adj. R-CH        | Speaker Terminal (R-ch)              | kVR1, R-ch (F-3221)   | DC 0V $\pm 5$ mV |  |
| 3.   | Bias Current Adj. L-CH | TP Terminal No. 94 and 96 of F-3221  | kVR2, L-ch (F-3236) at 1 minute after turning the power ON. | DC 15 mV         | Before adjustment, the temperature of the transistors and the radiator must be same as room temperature. |
| 4.   | Bias Current Adj. R-CH | TP Terminal No. 99 and 101 of F-3221 | kVR2, R-ch (F-3236) at 1 minute after turning the power ON. | DC 15 mV         |  |

### 6-2. Power Display Level Adjustment

Note: Turn nVR1 on conductor side of F-3227 fully counterclockwise.

| SETTING  | STEP | SUBJECT   | ADJUST              | ADJUSTMENT  |
|--|------|---|---------------------|---|
| 1. Set level volume of the unit maximum.   | 1    | Lighting level adj. on the power display (L-ch) | nVR1, L-ch (F-3227) | Set nVR1 (L-ch) to the position where the power display lights at 0 dB point. |
| 2. Feed 1 kHz sine-wave signal from audio oscillator to input terminals, L and R of the unit.                    | 2    | Lighting level adj. on the power display (R-ch) | nVR1, R-ch (F-3227) | Set nVR1 (R-ch) to the position where the power display lights at 0 dB point. |
| 3. Turn the output volume of oscillator to show 22.8 V (AU-D5), 25.3 V (AU-D7) on volt-meter at 8 $\Omega$ load. |      |   |                     |   |

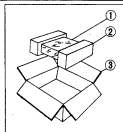
## 7. PACKING LIST

#### ● AU-D7

| Parts No. | Stock No. | Description                |
|-----------|-----------|----------------------------|
| 1         | 91167810  | Vinyl Cover                |
| 2         | 07533000  | Styrofoam Packing          |
| 3         | 07725900  | Carton Case (Silver Model) |
|           | 07726000  | Carton Case (Black Model)  |

#### ● AU-D5

| Parts No. | Stock No. | Description                |
|-----------|-----------|----------------------------|
| 1         | 91167810  | Vinyl Cover                |
| 2         | 07533000  | Styrofoam Packing          |
| 3         | 07667700  | Carton Case (Silver Model) |
|           | 07667600  | Carton Case (Black Model)  |



## 8. ACCESSORY LIST

#### ● AU-D7

| Stock No. | Description                              |
|-----------|--|
| 07667900  | Rack Mounting Adaptor (Black Model Only) |
| 07643900  | Operating Instruction                    |

#### ● AU-D5

| Stock No. | Description                              |
|-----------|--|
| 07667900  | Rack Mounting Adaptor (Black Model Only) |
| 07644000  | Operating Instruction                    |

**Sansui**

SANSUI ELECTRIC COMPANY LTD.  
 SANSUI ELECTRONICS CORPORATION

SANSUI ELECTRONICS (U.K.) LTD.  
 SANSUI ELECTRONICS G.M.B.H.

14-1, Isumi 2-chome, Sugimami-ku, Tokyo 168 Japan PHONE (03) 323-1111/TELEX-222-2076  
 1201 Van Ness Ave., Lindhurst, N.J. 07033 U.S.A.  
 333 West Alondra Blvd., Gardena, California 90247 U.S.A.

3238 Kameoka St., Honolulu, Hawaii 96819 U.S.A.  
 Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB6, OAA, England  
 Aratelco center, 6 Frankfurt AM Main, Lyoner Strasse 44-46, West Germany

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